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Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	MM Docket No. 93-13
	)	
Amendment of Section 73.202(b)	)	RM-8156
Table of Allotments,	)	RM-8234
FM Broadcast Stations	)	
(Blanchard, Louisiana and	)	
Stephens, Arkansas).	)	

APPLICATION FOR REVIEW

COMES NOW Arkansas Wireless Company (Wireless), by counsel, who files this Application for Review pursuant to Section 1.115 of the Commission's Rules and requests the Commission review the Report and Order (R&O) in the above proceeding which was released September 29, 1993.[1]

Background

This Rulemaking was initiated at the request of Daryl L. Bordelon who proposed the allotment of Channel 271C3 to Blanchard, Louisiana.[2] Wireless filed its counterproposal in response to the NPRM and both Wireless and Bordelon filed reply comments. Wireless counterproposed the allotment of Channel 241A to Stephens, Arkansas as the first local aural transmission service to the community.

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[1] 58 F.R. 51787 (October 5, 1993). This Application for Review is filed within 30 days of Federal Register publication. Should it be determined to be late, Wireless respectfully requests its acceptance.

[2] Notice of Proposed Rulemaking, 8 FCC Rcd 787 (1993).

Wireless contended that Stephens' U.S. Census population count of 1,137 was almost identical to that of Blanchard and that Blanchard was little more than a bedroom community of Shreveport, Louisiana and, as such, was well served by stations licensed to Shreveport. Stephens, Arkansas is a rural community which receives significantly less radio service and it should be preferred under Section 307(b) of the Communications Act of 1934.

In its R&O, the Commission, by delegated authority, determined that the respective populations of Blanchard and Stephens were 1,175 and 1,137 respectively (a difference of 38 people).

The bureau found that Blanchard receives 34 aural signals -- ten FM stations, twenty-one daytime AM stations and three night time AM stations. Stephens receives only 17 signals from seven FM stations, ten day time AM stations and no night time AM signals. Despite this service disparity and without citing legal authority, the staff finds that "population was the only distinguishing factor between the two proposals." Since Blanchard is larger, it was preferred by the staff citing Bostwick and Good Hope, Georgia and Three Oaks and Bridgman, Michigan.[3]

Wireless believes that the Commission must review the staff determination in this case based on the very slight difference between the populations of the respective communities and because of the limited analysis made of other public interest factors.

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[3] 6 FCC Rcd 5796 (1991); 5 FCC Rcd 1004 (1990).

Since both proposals would provide a first service to a community of license, both must be reviewed under the "other public interest matters" standard set forth in Revision of FM Assignment Policies and Procedures.[4] Regularly, the only other "public interest matters" which rise to Commission consideration in rulemakings are simple comparisons of population figures. In this case, however, a difference of 38 people in a population count of over 1,100 makes an objective comparison alone suspect. (Neither of the cases cited as authority involve population differences that small. In Three Oaks, the population differed by 461 persons and the larger community was 25% bigger than the smaller. In Bostwick, the population differed by only 120 persons, but the larger community was almost 50% bigger.) Here the difference is about 3% of the population.

Blanchard, Louisiana is located six miles Northwest of Shreveport, Louisiana.[5] In fact, it is located between Shreveport and the major antenna farm which serves most of the Shreveport radio and TV stations. (Shreveport has a 1990 Census population of 198,525 and it is the closest city of any size to either of the two communities considered here.) Blanchard is well within the Shreveport MSA and its "urbanized area". Stephens is not. Stephens is located in South-central Arkansas approximately 75 miles Northeast of Shreveport. It is in a rural area and a new service to Stephens, Arkansas would greatly benefit the people who live in that area. The largest city

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[4] 90 FCC2d 88 (1982).

[5] See Exhibit 1.

nearby is El Dorado, Arkansas, about 25 miles away with a population of 23,000.

As the bureau pointed out in its R&O, the following radio services are available to each community:

	Blanchard	Stephens
FM Signals	10	7
AM Signals (day time)	21	10
AM Signals (night time)	3	0

Although it may be factually correct to say that both communities are reasonably served by reception services, it is not be correct to say that the service to the communities is equivalent, especially if one is trying to hear a night time station in Stephens. Blanchard has from 50% to 100% more radio services in each of the FCC-enumerated categories than does Stephens. Given the substantially different aural service availabie to each community, the staff's conclusion that the only difference in the communities is population size is innacurate.

Where the communities are this close in population, the Commission must conduct a significant review of the public interest matters which should be considered in making an allocation. In this case, the most substantial factor is the presence of a major metropolitan area which affects one community as a suburb while the other community has no such comparable benefit. This tends to isolate the residents of the small community, Stephens. Further on the subject of public interest

matters which should be considered is the presence and activity level of other media within the potential communities of license.

The Shreveport daily newspaper, The Times, is easily available to residents of nearby Blanchard. Stephens is not so fortunate. It is served only by daily newspapers which are produced in distant locations.

Shreveport, Louisiana is the 85th radio market in the 1992 Broadcasting and Cable Marketplace Yearbook. With its proximity to Shreveport, Blanchard is well within this market. The closest community to Stephens, Arkansas which is listed is Texarkana, Texas/Arkansas, the 233rd market. Stephens is approximately 55 miles from Texarkana.

Blanchard and Stephens are both in the Shreveport-Texarkana Arbitron television ADI as the 71st market. Shreveport is allocated Channel 3 (ABC); Channel 12 (CBS); Channel 24*; Channel 33 (Fox) and Channel 45 (Independent). Channel 6 (NBC) is allocated to Texarkana but maintains its main studio in Shreveport and uses dual identification. Blanchard, as a suburban community, has access to all of the Shreveport/Texarkana TV signals and is considered within the principal city grade service of these stations. As such, the needs and interests of its population are dealt with in news and public affairs programming from these local stations. Stephens, Arkansas has no such equivalent media service available to it.

Putting aside the public interest factors not considered by the Commission in the R&O, the U.S. Census <u>can</u> tell us things about the communities beyond the mere population count.

Unfortunately, regardless of the reliability of the Census, the Department of Commerce emphasizes that its census figures, like all statistical samples, have "the same kind of errors as the 100-percent count from which they are drawn. These include errors in response, reporting and processing."[6]

Table 3 of the 1990 Census data reveals minority population information about the two communities.[7] Blanchard has a black population of 7 persons while the black population of Stephens is 434 persons, about 40% of Stephens' total. This becomes significant when the Secretary of Commerce reports

> Based on our estimates, Blacks appear to have been undercounted in the 1990 Census by 4.8 percent, Hispanics by 5.2 percent, Asian-Pacific Islanders by 3.1 percent, and American Indians by 5.0 percent while non-Blacks appear to have been undercounted by 1.7 percent.[8]

Secretary Mosbacher went on to report that despite these acknowledged errors, the census figures were not being adjusted for the undercount.

So we have a white bedroom community of a large city being compared to a rural community with a significant minority population in a census where the U. S. Government acknowledges undercounts for minority populations. This seems to negate the mere difference in the population count and makes the other allocation analysis more important.

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[6] 1990 Census of Population and Housing--Guide, Page 100 et seq., attached as Exhibit 2.

[7] 1990 U.S. Census figures from Table 3 of the census are reprinted for each community in Exhibit 3.

[8] Census and You, Vol. 26, No. 8, August 1991. Attached as Exhibit 4 (emphasis added).

The instant R&O cites Three Oaks as its authority. In Three Oaks the Commission made extensive findings concerning the differentiation between two communities. Bridgeman was a "city" with a population of 2,235 whereas Three Oaks was a "village" of 1,774. The Commission found that a difference in population of approximately 500 between two candidate communities was "extremely small and justifies consideration of other factors."[9] The reception services were nearly identical with Three Oaks receiving service from six FM signals, ten daytime AM signals, and five night time AM signals while Bridgeman received service from five FM signals, twelve daytime AM signals and five night time AM signals. The Commission stated that by its own analysis of the evidence submitted and considering all other conceivable and documentary evidentiary bases that it believed the communities were equivalent. The Commission found that the "incorporated community" of Bridgman with a larger population by over 400 people should have the allocation.

In the instant case there is no equivalence finding in the availability of reception services, just a vague reference to "well served"; no analysis has been made of the type or status of the communities or their relationship to surrounding large communities or rural areas; nor any analysis of whether a community is incorporated, a town or city, etc. Simply put, no exhaustive analysis has been made of the communities here as was done in Three Oaks. Without such, it cannot be said that Three Oaks supports the allotment determination made here.

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[9] Supra. at 1004.

The other case which the Report and Order cites favorably is Bostwick and Good Hope, Georgia, a 1991 decision between two Georgia communities. Although these communities were very small, population of 250 compared to 370, Bostwick was almost 50% bigger than Good Hope and it received less radio service. The Commission again did an extensive engineering analysis and determined that both communities were served by stations from Atlanta, Athens and Macon, but Good Hope, the smaller community was served by four more Atlanta FM stations than was Bostwick. Bostwick was awarded the frequency.

The facts in Bostwick are just the opposite of the Blanchard/Stephens situation. Stephens, the smaller community, gets less service. Further, in Bostwick the decision that both of these communities were well served was based in substantial part on the reception of the same signals from metropolitan areas coming into the communities. Here Blanchard is served by more of the major market stations (Shreveport) than is Stephens. The facts in Bostwick do not support the bureau in this case.

In Clarksville and Lanesville, Indiana the Commission considered an allocation of frequencies between two communities located in the vicinity of greater Louisville, Kentucky.[10] They each received the same aural services from broadcast stations in Louisville. The NPRM there requested each demonstrate why its community should be preferred. With the similarity in radio service, the much larger community (15,165 versus 570) was preferred. There has been no finding between

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[10] 4 FCC Rcd 4968 (1989).

Blanchard and Stephens that they receive the same signals nor has there been a challenge to compare the communities since Stephens, Arkansas was added to the caption of the Blanchard proceeding.

In West Liberty and Richwood, Ohio the Commission made its allocation decision based on relative population and nearly identical radio services to the communities.[11] Richwood's population was 2,181 and West Liberty's population was 1,653 and Richwood received six aural services to West Liberty's five services. The allotment was made to the larger community where the population difference was over 500 people, about 25% of the size of the smaller community -- much more than in any comparison of Blanchard and Stephens.

It is true that normally under an analysis of the "other public interest matters" as derived from revision of FM policies, a straight calculation of the population is made. It is distinctly possible however, that in the case of comparable or nearly identical populations, additional work needs to be done beyond a head count. The Commission has recognized this in the past in its cases where it has considered the other reception services available to each community, the geographical location and placement of each community and additional services available to one community as compared to the other.[12]

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[11] 6 FCC Rcd 6084 (1991).

[12] Where the Commission has compared two communities in other allocation matters, it frequently has additional information available. In Denison and Point Pilot, Texas, NPRM, DA 93-1193, released October 28, 1993, a Petitioner has requested a change in allotment to another community. He stated that he plans to move to an incorporated community and presented information about the form of government and the civil, municipal

Wireless suggests that added to this list of other public interest factors, the Commission might consider the rural or suburban status of the community, the extent to which the community is in the primary service area of other stations and its citizens are thereby ascertained for their needs and interests by such stations, the other media available to each community including newspaper service, and any other such public interest factors which may be pertinent.

It is obvious in reviewing the abbreviated Report and Order that the staff did not engage in this type of exhaustive rulemaking analysis. Whether the facts were not known to the Commission because of the limited pleadings or whether the Commission declined to consider other public interest matters is unclear. It would appear, however, that one simplified avenue remains available. The Commission is authorized by the Rules to issue a Further Notice of Proposed Rulemaking pursuant to Section 1.421 and request the parties submit the additional information needed for a reasoned analysis and decision making process. This information has not been available in this case, and consequently, the staff's decision is arbitrary and capricious.[13]

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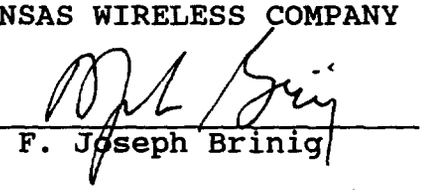
and educational facilities available.

[13] Wireless is today requesting the Commission stay the opening of the window period for applications for the Blanchard allotment pending the resolution of the rulemaking appeal.

WHEREFORE, Arkansas Wireless Company requests the Commission review the Report and Order in this Rulemaking and allocate Channel 271A to Stephens, Arkansas, or in the alternative order a Further Notice of Proposed Rulemaking.

Respectfully submitted,

ARKANSAS WIRELESS COMPANY

By: 
F. Joseph Brinig

Its attorney

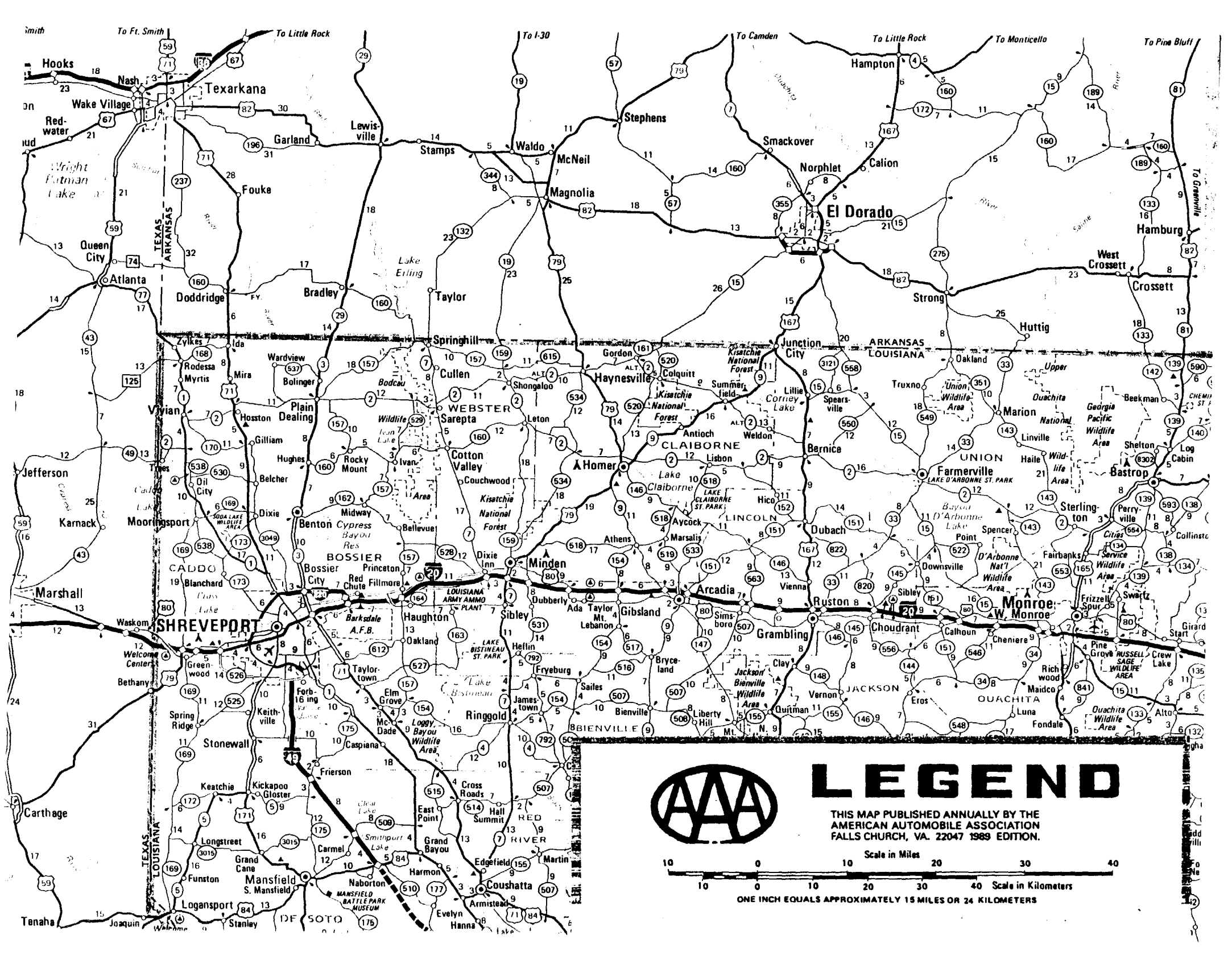
Brinig and Bernstein
1818 N Street, N.W.
Suite 200
Washington, D.C. 20036
(202) 331-7050

CERTIFICATE OF SERVICE

I hereby certify that on November 3, 1993, a true copy of the foregoing Application for Review was sent first class, postage pre-paid to Daryl Bordelon, 6036 Dillingham Drive, Shreveport, Louisiana 71106.

F. Joseph Brinig

Exhibit 1


LEGEND
THIS MAP PUBLISHED ANNUALLY BY THE
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Scale in Miles
10 0 10 20 30 40
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ONE INCH EQUALS APPROXIMATELY 15 MILES OR 24 KILOMETERS
Texarkana
Hooks
Nash
Wake Village
Red-water
Atlanta
Queen City
Doddridge
Bradley
Taylor
Springhill
Junction City
Huttig
Strong
West Crossett
Crossett
Hamburg
El Dorado
Norphlet
Calion
Smackover
Hampton
Stephens
Magnolia
McNeil
Waldo
Stamps
Lewis-ville
Garland
Fouke
Wright Patman Lake
Lake Erling
Haynesville
Gordon
Colquitt
Summer-field
Lillie
Spears-ville
Antioch
Weldon
Bernice
Lisbon
Homer
Lake Claiborne
Hico
Aycock
Marsalis
Athens
Minden
Dixie Inn
Dubberly
Ada
Taylor
Mt. Lebanon
Gibsland
Sibley
Arcadia
Vienna
Dubach
Ruston
Grambling
Simsboro
Choudrant
Calhoun
Cheniere
Monroe
W. Monroe
Sterling-ton
Farmerville
Marion
Truxno
Oakland
Beekman
Bastrop
Log Cabin
Shelton
Haile
Linville
Spencer
Point
Downsville
Sibley
Fairbanks
Perry-ville
Collinsto
Frizzell Spur
Swartz
Girard
Start
Pine Grove
Crew Lake
Rich-wood
Maidco
Eros
Luna
Fondale
Alto
Vernon
Quitman
Liberty Hill
Bienville
Jamestown
Ringgold
Fryeburg
Sailes
Bryce-land
Clay
Jackson Bienville Wildlife Area
Hellin
Oakland
Haughton
Princeton
Red Chute
Fillmore
Bossier City
Barksdale A.F.B.
Louisiana Army Ammo Plant
Lake Bistineau St. Park
Taylor-town
Elm Grove
Mc-Dade
Loggy Bayou Wildlife Area
Caspiana
Frierson
Cross Roads
East Point
Hall Summit
Grand Bayou
Harmon
Edgefield
Martin
Coushatta
Armistead
Evelyn
Hanna
Naborton
Mansfield
S. Mansfield
Mansfield Battle Park Museum
Logansport
Stanley
Joaquin
Tenaha
Carthage
Smithport Lake
Carmel
Longstreet
Grand Cane
Funston
Keithville
Spring Ridge
Stonewall
Keatchie
Kickapoo Gloster
Forb-ing
Bethany
Greenwood
Welcome Center
Waskom
SHREVEPORT
Marshall
Blanchard
Caddo Lake
Karnack
Jefferson
Mooringsport
Oil City
Belcher
Dixie
Benton
Midway
Bellevue
Cypress Bayou Res
Soda Lake Wildlife Area
Hosston
Gilliam
Hughes
Rocky Mount
Ivan
Ivan Lake
Cotton Valley
Couchwood
Kisatchie National Forest
Leton
Sarepta
Wildlife
Bodcau
Shongaloo
Bolinger
Wardview
Cullen
Plain Dealing
Mira
Rodessa
Myrtis
Zylkes
Ida
Vivian
Tyler
Corney Lake
Lillie
Summerfield
Kisatchie National Forest
Claiborne Lake
Lake Claiborne St. Park
Bayou D'Arbonne Lake
D'Arbonne Nat'l Wildlife Area
Lake D'Arbonne St. Park
Union Wildlife Area
Ouachita National
Georgia Pacific Wildlife Area
Wildlife Area
Service Wildlife Area
Cities
Russell Sage Wildlife Area
Jackson Bienville Wildlife Area
Ouachita Wildlife Area
Caddo
Bossier
Claiborne
Lincoln
Union
Ouachita
Jackson
Bienville
De Soto
Red River
Arkansas
Louisiana
Texas
To Ft. Smith
To Little Rock
To I-30
To Camden
To Little Rock
To Monticello
To Pine Bluff
To Greenville

Exhibit 2

trying to figure out how the Census Bureau got its results for a city block. Often the definition answers the question. It can explain what the Census Bureau does and doesn't count:

1. The census counts the housing units, not just the number of residential buildings. A person looking at a building may not realize that half a dozen units are inside.

2. The census would classify recreational vehicles, tents, and boats as housing units if someone usually lives there.

3. The census doesn't count some houses. It excludes those still under construction, burned out, condemned, or with the inside exposed to the elements on Census Day.

4. The census also excludes group quarters from the count of housing units. (Examples of group quarters include most rooming houses, communes, college dormitories, and nursing homes.)

It's easy to solve the misunderstandings discussed up to now. One can check the Glossary or one of the other sources mentioned. Another problem goes deeper—the question of estimates.

HOW TO USE ESTIMATES

The use of estimates is crucial to the operation of our social and economic institutions. Their value to many projects is greater than any 100-percent counts, which cover fewer subjects.

However, data users should not regard estimates as if they were counts. One easily can see the difference between the two. Simply compare the data for subjects and geographic areas in a sample data report with those from a complete count report. They will usually differ, though often very slightly.

The difference can be greater than it might seem from simply scanning the tables. Why? When a 100-percent count table shows "5 households," it means "5 households." When a sample data table shows "5," it means that there is a range of possible figures (perhaps from 4 to 6) that may be true—and that the average within that range is "5 households."

Fortunately, data users can determine how reliable a set of statistics is. They can even set their own "confidence level." That means they can use numbers they trust to correspond to an actual count a certain percentage of the time. They can set the confidence level high. For example, they may choose a range that would include the count 95 times out of 100. This is setting a confidence level of 95 percent. The section below explains how to do this. But first one needs to ask if it is necessary to use estimates at all.

Should One Use Sample or 100-Percent Data for a Subject?

Generally, if a user is interested in data on a 100-percent count subject, such as age, race, or tenure, it is best to use 100-percent (sometimes called "complete-count") data. That's true even though those same subjects can appear in reports and files with data from the sample only. The reason? As a rule, the 100-percent count data are more reliable. Sample results almost always differ from those a 100-percent count would give. That applies even if the questions, instructions, and enumerators had been the same.

Samples also have the same kinds of errors as the 100-percent count from which they are drawn. These include errors in response, reporting, and processing.

How Does the Census Bureau Estimate the Total Population From a Sample?

The statistical weight one gives to the data depends on the plan used to draw the sample. If half the people are sampled, then one could multiply by 2 to get an estimate for the total population. That number—the number by which one multiplies—is called the "sample weight." So the sample weight is 2 in this example.[3]

For the 1990 census, on the average 1 out of 6 housing units received a sample questionnaire. The Bureau of the Census sampled housing units in areas with small populations at a rate of 1-in-2. Other areas were sampled at 1-in-8. However, the majority of the country was sampled at 1-in-6. (For more information about sampling size, see "Sampling Techniques" under "Questionnaire Design and Use" in ch. 3 of this *Guide*.)

However, the statisticians do not use weights of 2, 6, and 8 for every area. For example, its rules might require a sample of 1-in-6 for half the population of a county but 1-in-8 for the other half. In that case, the overall average weight for the county would be about 7. Using varying weights, the Census Bureau determines the estimates for specific areas or groups of people.

In this way, it compensates to reduce "sampling variability." In other words, it narrows the range between the lowest and highest probable estimate. Put another way, it makes the estimate vary less from a 100-percent count of every person. (A more detailed explanation for sample data products appears in appendix C of the technical documentation (for computer files) and of the 1990 printed reports.)

[3]This passage aims to suggest the general idea of weighting, not the complexity of the actual estimation technique used in the 1990 census. The 1990 census ratio estimation technique, commonly known as "raking," is very complex. For information on the estimation methodology, refer to Appendix C, Accuracy of the Data, in any of the sample data products. The Census Bureau applies the resulting formulas to totals for demographic and housing characteristics. This technique reduces "standard errors" and statistical "bias," described later in this chapter.

Figure 6-2. **Population Differences Between 100-Percent and Sample Data for Census Tracts**

[Illustrative data]

	Redwood City								Balance of Rollings County			
	Tract 38	Tract 39	Tract 40.01	Tract 40.02	Tract 40.03	Tract 41	Tract 42p[1]	Tract 43	Tract 17	Tract 18	Tract 42p[1]	Tract 44
100-percent count data	3,420	5,957	21	3,099	2,502	4,818	106	3,356	3,682	3,248	2,621	1,718
Sample data	3,420	5,957	-	3,120	2,502	4,853	71	3,356	3,626	3,304	2,621	1,718

[1]The "p" refers to part of a census tract that is split by the boundary of an incorporated (or other) place.

Why Do Samples Only Occasionally Match 100-Percent Counts?

Why do sample data often differ from 100-percent—even if only slightly?

Generally, this difference occurs only within parts of "sample weighting areas." Sometimes sample weighting areas are census tracts. To serve as a sample weighting area, a census tract must have at least 400 sample persons. If not, the Census Bureau combines this census tract with another to create a sample weighting area. The sample data won't match the census 100-percent count exactly for either census tract, but they will match when data for the two census tracts are added. Such differences show up whenever a geographic area differs from a sample weighting area.

Sample weighting areas are unique—they do not overlap each other and they do not cut across certain political boundaries, such as counties or States. However, sample weighting boundaries can cut across some other statistical boundaries. (These include "census county divisions," "block numbering areas," and "block groups"; ch. 4 defines each term.)

Sample data on population may not match sample data on housing for every subject item or geographic area. Why? Because weights for population and housing estimates are determined by independent, though corresponding, estimation techniques.

Differences between sample and 100-percent count data may surprise new users. Matching numbers may surprise the experienced.

Specific tables illustrate these concerns.

Population and Housing Characteristics for Census Tracts and Block Numbering Areas (CPH-3) provides an example of 100-percent and sample data.

This chapter provides two imaginary illustrations. Figures 6-2 and 6-3 show how complete counts might differ from sample data in some areas in the 1990 census results. Notice the difference in figure 6-2 between data for tracts 40.01 and 40.02. Add the 100-percent counts for 40.01 to 40.02. Do the same for the sample data there. The sample total matches the count. The same thing happens when one adds tract 41 to part ("p") of tract 42, in Redwood City.

For tract 44, the sample and 100-percent count figures match. Why? Maybe chance or maybe the census tract coincides with a place of fewer than 2,500 people. In such a case, it was sampled at 1-in-2 and was itself a sample weighting area. Census tracts 17 and 18 illustrate another situation. Both add up to 6,930, even though their populations, each over 2,500, suggest that they need not have been combined into the same sample weighting area. However, there may be a small incorporated place in either census tract that constituted a separate sample weighting area. That would have forced the remainder of the census tract to be combined with the other tract.

Sample data from these areas usually differ from 100-percent counts, as in figure 6-3. Normally, this difference is within the range of "sampling variability." A little later on, this chapter discusses that phrase. But first one should consider a basic principle–that samples vary.

HOW SAMPLES VARY

Sample results are just estimates of what a 100-percent count would have shown. So it is likely the sample data will be somewhat different from the count.

How much will a sample estimate differ from the 100-percent count? It varies. Knowing about this "sampling variability" helps one understand how much confidence to put in the data. As noted earlier, one can put more confidence in estimates for areas with large numbers than small. Suppose one finds a family poverty rate estimate of 15 percent. How close would that be to a 100-percent count figure? In a city or State of several million people, it might be within one-tenth of 1 percent. In a census tract of a few thousand people, the estimate might be off by a sizable percentage of the total. So caution should be used with this estimate.

Figure 6-3. **Population Differences Between 100-Percent and Sample Data for Census County Divisions**

[Illustrative data]

	100-percent count	Sample estimate
Franklin County	21,356	21,356
Ashland division	397	485
Crowell division	3,546	3,448
Douglas division	10,432	10,446
Douglas city	9,982	9,982
Durham division	1,651	1,709
Greenville division	2,279	2,114
Greenville town	676	709
Halcott division	199	114
Lexington division	1,662	1,690
Lexington city	1,201	1,201
Withers division	1,190	1,350
Withers town	471	433

What Do "Standard Errors" Imply for the User?

How can one estimate the size of the error from the size of the sample? One can do that by using the "standard error" that applies to the specific area and characteristics one has in mind. It's a number from a formula discussed later in the chapter. This chapter typically refers to the standard error as the average error that arises from taking a sample instead of a count. Technically, in statistical theory, standard error is slightly different-the average error coming from all possible samples.

Because the standard error is so important, virtually every census report with estimates includes the information needed to calculate it.

The standard error is based on one fact: Chance errors follow patterns. These patterns let one approximate how much an estimate will differ from the 100-percent count.

Statisticians use phrases like "standard error" to describe such patterns. A single standard error implies a range of figures that will be, as statisticians have learned, accurate 2 out of 3 times. For example, suppose an estimate is 50 and the standard error is plus or minus 5, that is, from 45 to 55. That means 2 out of 3 times the actual count (50) would be within the limits of confidence intervals (45-55) constructed this way. (In other words, 2 times in 3, the confidence intervals constructed in this way would contain the actual 100-percent count.) By contrast, 2 standard errors describe a range (plus or minus 10, or 40-60, in this example) which would match the 100-percent count more often-in about 19 out of 20 cases. Two and a half standard errors would equal 2 1/2 times 5 in this example, or plus or minus 12 1/2. The span, then, would be 37 1/2 - 62 1/2. Statisticians have learned that a confidence interval range of 2 1/2 standard errors would include the actual count 99 times out of 100. Converted to percentages, the probability of 2 out of 3, 19 out of 20, and 99 out of 100 are about 67, 95, and 99 percent. So depending on whether the user employs 1, 2, or 2 1/2 standard errors, the estimates would tend to match counts about 67, 95, or 99 percent of the time.

Does this show how much the estimate may vary from the "true value"—that is, the actual number of people, for instance? No, it shows the possible variation from the *census count.* Other kinds of errors can distort both counts and estimates. Both may suffer from errors in coverage, processing, and other forms of nonsampling error ("statistical bias," for instance) discussed in the following section. A distinction between the true value and the count may affect projects focused on minorities. As a rule, it would affect other projects less.

However, the principles for using estimates are similar for all populations and all sources of statistics.

How Confident Should One Be of an Estimate?

One can put more confidence in an estimate that allows for a wide range of possible results. A narrow range might be preferable, but the chance that it would be accurate might be slim. Take an example from ordinary life. If 12 people are invited to a party, it's more likely that between 8 and 11 will accept than that the figure will be exactly 9.

Actually, one can determine the degree of confidence needed. This is called "defining the confidence interval" by specifying the number of standard errors (or "s.e.").

- A 67-percent confidence interval ranges from 1 standard error below the estimate to 1 above it. One can say this another way: "±1 s.e." or plus or minus 1 standard error.

- A 95-percent confidence interval ranges from 2 standard errors below the estimate to 2 above it—in other words, "±2 s.e."

- A 99-percent confidence interval ranges from 2 1/2 standard errors below the estimate to 2 1/2 above it, "±2 1/2 s.e."

With an estimate of 1,000 and a standard error of 70, a 67-percent confidence interval ranges from 930 to 1,070. Of course, one still takes a 33-percent chance that the number being estimated will actually go below 930 or above 1,070. That would fall outside the 67-percent confidence interval. So frequently people choose a more conservative interval. A 95-percent confidence interval gives 860 to 1,140 [1,000 (±2 x 70)].

Compensating for the standard errors may be insufficient; some subjects and calculations are more vulnerable to errors than others. (Such errors differ from the sampling errors discussed here. Called "nonsampling errors," they are discussed later in the chapter.)

What Should One Consider In Estimating a Standard Error?

What makes an error large or small? It hinges on the standard error and other concerns. Specifically, error can depend on—

1. the size of the estimated number
2. the size of the sample it comes from
3. the subject (e.g., poverty)—some subjects are more likely than others to be in error, thus affecting estimates as well as counts
4. the estimation process

The illustrations in this chapter cover these points. Specifically, the tables and formulas in figures 6-4, 6-5, and 6-6 address each of the four items above. Figure 6-4

Figure 6-4. **Unadjusted Standard Error for Estimated Totals**

[*1990 data.* Based on a 1-in-6 simple random sample]

Estimated Total	Size of publication area													
	500	1,000	2,500	5,000	10,000	25,000	50,000	100,000	250,000	500,000	1,000,000	5,000,000	10,000,000	25,000,000
50[1]	16	16	16	16	16	16	16	16	16	16	16	16	16	16
100	20	21	22	22	22	22	22	22	22	22	22	22	22	22
250	25	30	35	35	35	35	35	35	35	35	35	35	35	35
500	-	35	45	45	50	50	50	50	50	50	50	50	50	50
1,000	-	-	55	65	65	70	70	70	70	70	70	70	70	70
2,500	-	-	-	80	95	110	110	110	110	110	110	110	110	110
5,000	-	-	-	-	110	140	150	150	160	160	160	160	160	160
10,000	-	-	-	-	-	170	200	210	220	220	220	220	220	220
15,000	-	-	-	-	-	170	230	250	270	270	270	270	270	270
25,000	-	-	-	-	-	-	250	310	340	350	350	350	350	350
75,000	-	-	-	-	-	-	-	310	510	570	590	610	610	610
100,000	-	-	-	-	-	-	-	-	550	630	670	700	700	710
250,000	-	-	-	-	-	-	-	-	-	790	970	1 090	1 100	1 100
500,000	-	-	-	-	-	-	-	-	-	-	1 120	1 500	1 540	1 570
1,000,000	-	-	-	-	-	-	-	-	-	-	-	2 000	2 120	2 190
5,000,000	-	-	-	-	-	-	-	-	-	-	-	-	3 540	4 470
10,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	5 480

[1]The standard error shown may be applied to any number from 0 through 50.

[2]The total count of persons in the area if the estimated total is a personal characteristic, or the total count of housing units in the area if the estimated total is a housing unit characteristic.

Figure 6-5. **Unadjusted Standard Error in Percentage Points for Estimated Percentage**

[*1990 data.* Based on a 1-in-6 simple random sample]

Estimated Percentage	Base of percentage												
	500	750	1,000	1,500	2,500	5,000	7,500	10,000	25,000	50,000	100,000	250,000	500,000
2 or 98[1]	1.4	1.1	1.0	0.8	0.6	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.1
5 or 95	2.2	1.8	1.5	1.3	1.0	0.7	0.6	0.5	0.3	0.2	0.2	0.1	0.1
10 or 90	3.0	2.4	2.1	1.7	1.3	0.9	0.8	0.7	0.4	0.3	0.2	0.1	0.1
15 or 85	3.6	2.9	2.5	2.1	1.6	1.1	0.9	0.8	0.5	0.4	0.3	0.2	0.1
20 or 80	4.0	3.3	2.8	2.3	1.8	1.3	1.0	0.9	0.6	0.4	0.3	0.2	0.1
25 or 75	4.3	3.5	3.1	2.5	1.9	1.4	1.1	1.0	0.6	0.4	0.3	0.2	0.1
30 or 70	4.6	3.7	3.2	2.6	2.0	1.4	1.2	1.0	0.6	0.5	0.3	0.2	0.1
35 or 65	4.8	3.9	3.4	2.8	2.1	1.5	1.2	1.1	0.7	0.5	0.3	0.2	0.2
50	5.0	4.1	3.5	2.9	2.2	1.6	1.3	1.1	0.7	0.5	0.4	0.2	0.2

[1]The percentages may range from 0 through 2 and from 98 through 100.

deals with the effect of size (points 1 and 2) on a standard error. In this case, in an area of 2,500 an estimated number of 100 has a standard error of 22—more than one-fifth of the total. By contrast, in an area of 1,000,000 people an estimated number of 100,000 has a relatively tiny standard error of 670. Figure 6-5 tells a similar story in percentages.

Figure 6-6 shows how different characteristics are subject to varying standard errors (point 3). The numbers shown in figure 6-6 are considerations (called "design factors") to be used in estimating standard errors. The factors vary from characteristic to characteristic. Although the percentages are imaginary, they illustrate that fact. For example, in the first column the standard design factor for school enrollment (at 0.8) is smaller than for race (at 1.6). Much less evident, but equally true, figure 6-6 also shows the effect of the estimation process (point 4).

One way to understand the variations in figure 6-6 is to keep in mind that certain characteristics are usually shared by entire households. Any errors for such characteristics can multiply (or, as statisticians sometimes say, "cluster"). Such traits as race and residence in 1985 are important examples. These insights into standard errors lead to the reliable use of data based on sample estimates.

How Can One Find How Reliable an Estimate Is?

A few basic steps show how to determine the level of confidence. It is also called defining a confidence interval, using either tables or formulas. This chapter explains both methods. It considers the tables first, the formulas next.

For the tables, turn to appendix C in the printed reports or refer to the documentation for the summary tapes. Figures 6-4 through 6-6 duplicate or illustrate these tables.

Exhibit 3

Table 3. Sex, Race, and Hispanic Origin: 1990—Con.

[For definitions of terms and meanings of symbols, see text]

State County County Subdivision Place	All persons	Sex		Race					Hispanic origin (of any race)	Not of Hispanic origin				
		Male	Female	White	Black	American Indian, Eskimo, or Aleut	Asian or Pacific Islander	Other race		White	Black	American Indian, Eskimo, or Aleut	Asian or Pacific Islander	Other race
Newton County—Con.														
Van Buren township	151	75	76	151	–	–	–	–	–	151	–	–	–	–
White township	784	399	385	783	–	1	–	–	2	781	–	1	–	–
Ouachita County	30 574	14 419	16 155	19 702	10 739	44	67	22	133	19 617	10 712	43	66	3
Behestion township	320	160	160	71	247	2	–	–	–	71	247	2	–	–
Bradley township	1 871	964	907	1 647	202	5	9	8	31	1 625	202	4	9	–
East Camden town	783	399	384	656	116	–	6	5	20	641	116	–	6	–
Bragg township	418	212	206	165	246	7	–	–	5	165	241	7	–	–
Bridge Creek township	726	359	367	508	209	2	3	4	9	503	209	2	3	–
Carroll township	262	122	140	107	155	–	–	–	–	107	155	–	–	–
Cleveland township	278	146	132	271	5	1	1	–	–	271	5	1	1	–
Ecore Fabre township	11 758	5 349	6 409	6 222	5 495	8	29	4	31	6 200	5 489	8	29	1
Camden city (pt.)	10 185	4 587	5 598	5 022	5 132	8	20	3	27	5 003	5 127	8	20	–
Freeo township	310	152	158	107	202	1	–	–	1	107	201	1	–	–
Jefferson township	246	118	128	109	137	–	–	–	–	109	137	–	–	–
Lafayette township	6 837	3 249	3 588	5 685	1 120	14	17	1	19	5 669	1 118	14	17	–
Camden city (pt.)	4 195	1 940	2 255	3 400	772	9	13	1	10	3 391	772	9	13	–
Liberty township	154	75	79	90	64	–	–	–	–	90	64	–	–	–
Marion township	913	453	460	571	339	–	–	3	6	566	339	–	–	2
Red Hill township	1 059	522	537	619	440	–	–	–	3	616	440	–	–	–
Chidester city	489	246	243	237	252	–	–	–	1	236	252	–	–	–
Reader town (pt.)	50	25	25	35	15	–	–	–	–	35	15	–	–	–
River township	37	18	19	27	10	–	–	–	–	27	10	–	–	–
Smackover township	1 747	800	947	956	790	–	1	–	25	944	778	–	–	–
Stephens city	1 137	514	623	703	434	–	–	–	11	692	434	–	–	–
Union township	1 667	765	902	999	660	3	3	2	3	999	659	3	3	–
Bearden city	1 021	463	558	728	292	–	1	–	–	728	292	–	1	–
Valley township	1 030	512	518	808	219	1	2	–	–	808	219	1	2	–
Washington township	941	443	498	740	199	–	2	–	–	740	199	–	2	–
Louann town	158	75	83	131	27	–	–	–	–	131	27	–	–	–
Perry County	7 969	3 919	4 050	7 780	119	42	17	11	47	7 748	119	38	17	–
Aplin township	255	128	127	254	–	1	–	–	–	254	–	1	–	–
Casa township	482	240	242	472	–	4	6	–	–	472	–	4	6	–
Casa town	200	100	100	197	–	3	–	–	–	197	–	3	–	–
Cherry Hill township	196	100	96	195	–	1	–	–	–	195	–	1	–	–
Fourche Lafave township	1 492	687	805	1 483	3	3	3	–	7	1 476	3	3	3	–
Perryville city	1 141	506	635	1 132	3	3	3	–	–	1 132	3	3	3	–
Houston township	645	327	318	644	–	1	–	–	2	642	–	1	–	–
Houston town	149	79	70	149	–	–	–	–	–	149	–	–	–	–
Kenney township	88	46	42	88	–	–	–	–	–	88	–	–	–	–
Lake township	480	237	243	480	–	–	–	–	1	479	–	–	–	–
Perry town	228	106	122	228	–	–	–	–	–	228	–	–	–	–
Maumelle township	403	196	207	403	–	–	–	–	–	403	–	–	–	–
New Tennessee township	160	83	77	151	–	5	2	2	8	145	–	5	2	–
Perry township	685	337	348	679	–	5	1	–	6	673	–	5	1	–
Bigelow town	340	161	179	339	–	1	–	–	5	334	–	1	–	–
Fourche town	55	30	25	51	–	4	–	–	–	51	–	4	–	–
Petit Jean township	382	191	191	372	1	9	–	–	4	372	1	5	–	–
Adona town	146	71	75	143	–	3	–	–	–	143	–	3	–	–
Rankin township	1 042	506	536	1 036	–	3	3	–	6	1 030	–	3	3	–
Rose Creek township	233	110	123	231	–	1	1	–	–	231	–	1	1	–
Tyler township	243	126	117	235	–	2	1	5	5	235	–	2	1	–
Union township	480	238	242	356	115	6	–	3	5	354	115	6	–	–
Union Valley township	260	135	125	260	–	–	–	–	–	260	–	–	–	–
Wye township	443	232	211	441	–	1	–	1	3	439	–	1	–	–
Phillips County	28 838	13 188	15 650	12 915	15 753	40	72	58	237	12 793	15 705	36	65	2
Big Creek township	691	336	355	172	517	–	2	–	–	172	517	–	2	–
Cleburne township	601	300	301	291	304	2	2	2	6	286	304	2	2	1
Cleveland township	261	134	127	189	72	–	–	–	–	189	72	–	–	–
Cypress township	220	98	122	89	131	–	–	–	–	89	131	–	–	–
Hickory Ridge township	1 954	857	1 097	1 004	945	2	3	–	4	1 000	945	2	3	–
Marvell city	1 545	661	884	768	773	1	3	–	2	766	773	1	3	–
Hicksville township	298	138	160	49	249	–	–	–	–	49	249	–	–	–
Hornor township	11 801	5 399	6 402	5 938	5 814	23	14	12	115	5 866	5 785	21	14	–
Helena city (pt.)	64	30	34	64	–	–	–	–	1	63	–	–	–	–
West Helena city (pt.)	9 693	4 372	5 321	4 643	5 013	14	14	9	98	4 578	4 991	12	14	–
Lake township	70	38	32	46	23	–	–	1	1	46	23	–	–	–
Marion township	775	361	414	298	471	–	–	6	9	295	471	–	–	–
Mooney township	560	272	288	187	372	–	1	–	3	184	372	–	1	–
St. Francis township	7 657	3 420	4 237	2 737	4 870	8	32	10	44	2 720	4 858	8	26	1
Helena city (pt.)	7 427	3 308	4 119	2 636	4 744	8	32	7	35	2 621	4 736	8	26	1
West Helena city (pt.)	3	1	1	2	–	–	–	–	–	2	–	–	–	–

Table 3. Sex, Race, and Hispanic Origin: 1990—Con.

Table 3. Sex, Race, and Hispanic Origin: 1990—Con.

[For definitions of terms and meanings of symbols, see text]

State Parish Parish Subdivision Place	All persons	Sex		Race					Hispanic origin (of any race)	Not of Hispanic origin				
		Male	Female	White	Black	American Indian, Eskimo, or Aleut	Asian or Pacific Islander	Other race		White	Black	American Indian, Eskimo, or Aleut	Asian or Pacific Islander	Other race
Bienville Parish—Con.														
District 2	2 376	1 121	1 255	721	1 654	–	–	1	7	715	1 654	–	–	–
Arcadia town (pt.)	1 600	735	865	399	1 200	–	–	1	5	395	1 200	–	–	–
Bryceland village	103	54	49	99	4	–	–	–	–	99	4	–	–	–
District 3	1 950	938	1 012	683	1 265	–	1	1	2	683	1 263	–	1	1
Gibsland town	1 224	579	645	300	924	–	–	–	1	300	923	–	–	–
Mount Lebanon town	102	47	55	90	12	–	–	–	–	90	12	–	–	–
District 4	2 504	1 200	1 304	1 624	869	10	1	–	16	1 612	865	10	1	–
Jamestown village (pt.)	116	51	65	116	–	–	–	–	–	116	–	–	–	–
Ringgold town (pt.)	790	359	431	341	443	6	–	–	1	340	443	6	–	–
District 5	2 243	1 049	1 194	1 375	864	2	2	–	14	1 368	857	2	2	–
Jamestown village (pt.)	32	17	15	32	–	–	–	–	–	32	–	–	–	–
Ringgold town (pt.)	1 066	473	593	520	544	2		–	9	518	537	2	–	–
District 6	2 274	1 090	1 184	1 744	523	3	3	1	9	1 741	518	3	3	–
Bienville village (pt.)	316	145	171	201	114	–	–	1	7	200	109	–	–	–
Castor village	196	85	111	190	5	–	1	–	–	190	5	–	1	–
District 7	2 387	1 190	1 197	1 275	1 107	–	5	–	11	1 266	1 105	–	5	–
Bienville village (pt.)	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Lucky village	342	170	172	102	240	–	–	–	–	102	240	–	–	–
Saline village	272	133	139	190	79	–	3	–	–	190	79	–	3	–
Bossier Parish	86 088	41 831	44 257	67 030	17 381	308	908	461	1 799	65 812	17 301	274	867	35
District 1	9 976	4 919	5 057	7 945	1 844	28	129	30	155	7 824	1 842	25	126	4
Bossier City city (pt.)	5 187	2 514	2 673	4 629	397	15	121	25	121	4 535	395	15	118	3
District 2	10 055	4 970	5 085	8 530	1 423	28	47	27	139	8 431	1 421	23	41	–
Eastwood CDP (pt.)	2 987	1 467	1 520	2 756	199	8	17	7	43	2 728	199	4	13	–
Haughton town	1 664	795	869	1 187	464	4	2	7	19	1 175	464	4	2	–
Red Chute CDP (pt.)	3 070	1 541	1 529	2 837	198	9	23	3	38	2 805	196	8	23	–
District 3	7 906	3 887	4 019	5 952	1 889	34	19	12	102	5 881	1 878	25	19	1
Benton town	2 047	993	1 054	1 179	849	7	5	7	26	1 166	846	3	5	1
District 4	6 154	2 909	3 245	3 298	2 833	14	4	5	46	3 265	2 824	14	3	2
Plain Dealing town	1 074	471	603	719	354	–	–	1	8	711	354	–	–	1
District 5	8 274	4 018	4 256	7 049	1 034	43	95	53	216	6 897	1 027	40	91	3
Bossier City city (pt.)	6 336	3 059	3 277	5 292	879	34	91	40	174	5 169	872	31	87	3
Eastwood CDP (pt.)	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Red Chute CDP (pt.)	1 493	736	757	1 348	124	9	3	9	33	1 324	124	9	3	–
District 6	10 607	5 054	5 553	9 478	954	18	101	56	211	9 330	949	16	101	–
Bossier City city (pt.)	8 573	4 043	4 530	7 572	854	16	86	45	170	7 454	849	14	86	–
Red Chute CDP (pt.)	868	429	439	822	32	1	8	5	22	805	32	1	8	–
District 7	5 278	2 407	2 871	2 448	2 749	18	33	30	102	2 383	2 742	18	31	2
Bossier City city (pt.)	5 278	2 407	2 871	2 448	2 749	18	33	30	102	2 383	2 742	18	31	2
Shreveport city (pt.)	–	–	–	–	–	–	–	–	–	–	–	–	–	–
District 8	5 058	2 375	2 683	4 232	689	29	76	32	128	4 152	681	21	70	6
Bossier City city (pt.)	5 058	2 375	2 683	4 232	689	29	76	32	128	4 152	681	21	70	6
District 9	6 835	3 130	3 705	5 407	1 262	26	84	56	165	5 308	1 252	25	78	7
Bossier City city (pt.)	6 835	3 130	3 705	5 407	1 262	26	84	56	165	5 308	1 252	25	78	7
District 10	5 645	3 121	2 524	3 616	1 801	19	122	87	222	3 498	1 788	18	113	6
Bossier City city (pt.)	5 645	3 121	2 524	3 616	1 801	19	122	87	222	3 498	1 788	18	113	6
District 11	4 983	2 459	2 524	4 270	539	31	107	36	156	4 152	537	30	106	2
Bossier City city (pt.)	4 492	2 226	2 266	3 816	526	25	90	35	148	3 705	524	24	89	2
Shreveport city (pt.)	491	233	258	454	13	6	17	1	8	447	13	6	17	–
District 12	5 317	2 582	2 735	4 805	364	20	91	37	157	4 691	360	19	88	2
Bossier City city (pt.)	5 317	2 582	2 735	4 805	364	20	91	37	157	4 691	360	19	88	2
Shreveport city (pt.)	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Caddo Parish	248 253	115 934	132 319	146 580	99 511	557	1 115	490	2 595	144 885	99 101	516	1 095	61
District 1	20 783	9 965	10 818	16 148	4 516	68	27	24	147	16 047	4 500	66	22	1
Belcher village	249	127	122	155	94	–	–	–	–	155	94	–	–	–
Blanchard town	1 175	570	605	1 155	7	9	4	–	3	1 152	7	9	4	–
Gilliam village	202	107	95	111	90	1	–	–	1	110	90	1	–	–
Hosston village	417	200	217	302	114	–	–	1	7	296	114	–	–	–
Ida village	250	125	125	247	1	1	–	1	1	247	1	1	–	–
Mooringsport town	873	402	471	722	141	5	5	–	3	719	141	5	5	–
Oil City town	1 282	595	687	804	465	10	–	3	10	797	464	10	–	1
Rodessa village	294	141	153	281	10	3	–	–	–	281	10	3	–	–
Vivian town	4 156	1 849	2 307	3 017	1 115	14	4	6	20	3 010	1 108	14	4	–
District 2	19 254	8 919	10 335	4 843	14 341	23	27	20	86	4 799	14 314	19	27	9
Shreveport city (pt.)	13 394	6 015	7 379	232	13 136	8	9	9	32	231	13 109	7	9	6
District 3	15 400	6 974	8 426	3 125	12 221	18	14	22	124	3 085	12 155	14	13	9
Shreveport city (pt.)	14 907	6 739	8 168	2 863	11 990	18	14	22	124	2 823	11 924	14	13	9
District 4	19 949	9 185	10 764	14 120	5 483	86	171	89	298	13 945	5 446	83	168	9
Shreveport city (pt.)	19 949	9 185	10 764	14 120	5 483	86	171	89	298	13 945	5 446	83	168	9
District 5	18 023	8 170	9 853	3 203	14 771	20	18	11	93	3 169	14 721	20	17	3
Shreveport city (pt.)	18 023	8 170	9 853	3 203	14 771	20	18	11	93	3 169	14 721	20	17	3
District 6	17 886	8 060	9 826	9 134	8 564	40	85	63	339	8 928	8 489	36	82	12
Shreveport city (pt.)	17 886	8 060	9 826	9 134	8 564	40	85	63	339	8 928	8 489	36	82	12
District 7	16 530	7 565	8 965	3 181	13 304	17	22	6	75	3 153	13 262	17	22	1

Exhibit 4

Monthly News From the U.S. Bureau of the Census

CENSUS and You

Volume 26, No. 8
August 1991

Secretary of Commerce Robert A. Mosbacher Decides Against Adjustment of 1990 Census

Below is the text of Commerce Secretary Robert A. Mosbacher's statement on adjustment made at a July 15, 1991 press conference:

"Reaching a decision on the adjustment of the 1990 census has been among the most difficult decisions I have ever made. There are strong equity arguments both for and against adjustment. But most importantly, the census counts are the basis for the political representation of every American, in every State, county, city, and block across the country.

"If we change the counts by a computerized, statistical process, we abandon a 200-year tradition of how we actually count people. Before we take a step of that magnitude, we must be certain that it would make the census better and the distribution of the population more accurate. After a thorough review, I find the evidence in support of an adjustment to be inconclusive and unconvincing. Therefore, I have decided that the 1990 census counts should not be changed by a statistical adjustment.

"The 1990 census is one of the two best censuses ever taken in this country. We located about 98 percent of all the people living in the United States as well as U.S. military personnel living overseas, which is an extraordinary feat given the size, diversity, and mobility of our population. But I am sad to report that despite the most aggressive outreach program in our Nation's history, census participation and coverage was lower than average among certain segments of our population. Based on our estimates, Blacks appear to have been undercounted in the 1990 census by 4.8 percent, Hispanics by 5.2 percent, Asian-Pacific Islanders by 3.1 percent, and American Indians by 5.0 percent, while non-Blacks appear to have been undercounted by 1.7 percent.

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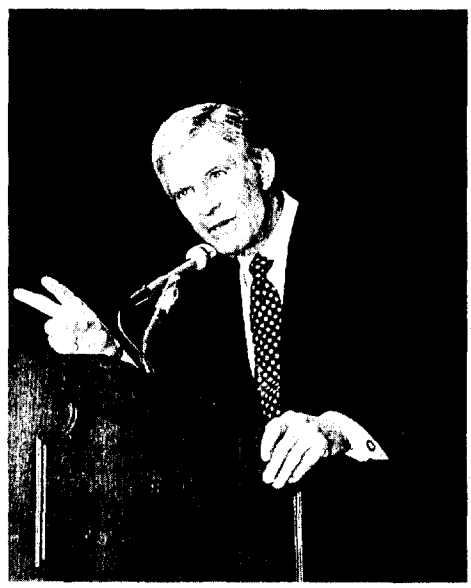
"I am deeply troubled by this problem of differential participation and undercount of minorities, and I regret that an adjustment does not address this phenomenon without adversely affecting the integrity of the census.



Secretary Mosbacher announced his decision at a press conference on July 15. He read from a prepared statement and answered questions from reporters.

Ultimately, I had to make the decision which was fairest for all Americans.

"The 1990 census is not the vehicle to address the equity concerns raised by the undercount. Nonetheless, I am today requesting that the Census Bureau incorporate, as appropriate, information gleaned from the Post-Enumeration Survey into its intercensal estimates of the population. We should also seek other avenues for the Bush Administration and Congress

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U.S. Department of Commerce
Economics and Statistics Administration
BUREAU OF THE CENSUS

No Adjustment of Census '90

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to work together and address the impact of the differential undercount of minorities on Federal programs.

"In reaching the decision not to adjust the census, I have benefited from frank and open discussions of the full range of issues with my staff, with senior professionals from the Economics and Statistics Administration and the Census Bureau, with my Inspector General, and with statisticians and other experts. Throughout these discussions, there was a wide range of professional opinion and honest disagreement. The Department has tried to make the process leading to this decision as open as possible. In that spirit, we will provide the full record of the basis for our decision as soon as it is available.

"In reaching the decision, I looked to statistical science for the evidence on whether the adjusted estimates were more accurate than the census count. As I am not a statistician, I relied on the advice of the director of the Census Bureau, the associate director for the decennial census and other career Bureau officials, and the under secretary for economic affairs and administrator of the economics and statistics administration. I was also fortunate to have the independent counsel of the eight members of my special advisory panel. These eight experts and their dedicated staffs gave generously of their time and expertise, and I am grateful to them.

"The Department has tried to make the process leading to this decision as open as possible."

"There was a diversity of opinion among my advisers. The special advisory panel split evenly as to whether there was convincing evidence that the adjusted counts were more accurate. There was also disagreement among the professionals in the Commerce Department, which includes the Economics and Statistics Administration and the Census Bureau. This compounded the difficulty of the decision for me. Ultimately, I was compelled to conclude that we cannot proceed on unstable ground in such an important matter of public policy.

"The experts have raised some fundamental questions about an adjustment. The Post-Enumeration Survey, which was designed to allow us to find people we had missed, also missed important segments of the population. The models used to infer populations across the Nation depended heavily on assumptions, and the results changed in important ways when the assumptions changed. These problems don't disqualify the adjustment automatically – they mean we won't get a perfect count from an adjustment. The question is whether we will get better estimates of the population. But what does better mean?

"First, we have to look at various levels of geography – whether the counts are better at national, State, local, and block levels. Secondly, we have to determine both whether the actual count is better and whether the share of States and cities within the total population is better. The paradox is that in attempting to make the actual count more accurate by an adjustment, we might be making the shares less accurate. The shares are very important because they determine how many congressional seats each State gets, how political representation is allocated within States, and how large a 'slice of the pie' of Federal funds goes to each city and State. Any upward adjustment of one share necessarily means a downward adjustment of another. Because there is a loser for ev-

Census and You

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